



Jet Propulsion Laboratory
California Institute of Technology

podaac

Physical Oceanography Distributed Active Archive Center



Upcoming Services for Surface Water at PO.DAAC

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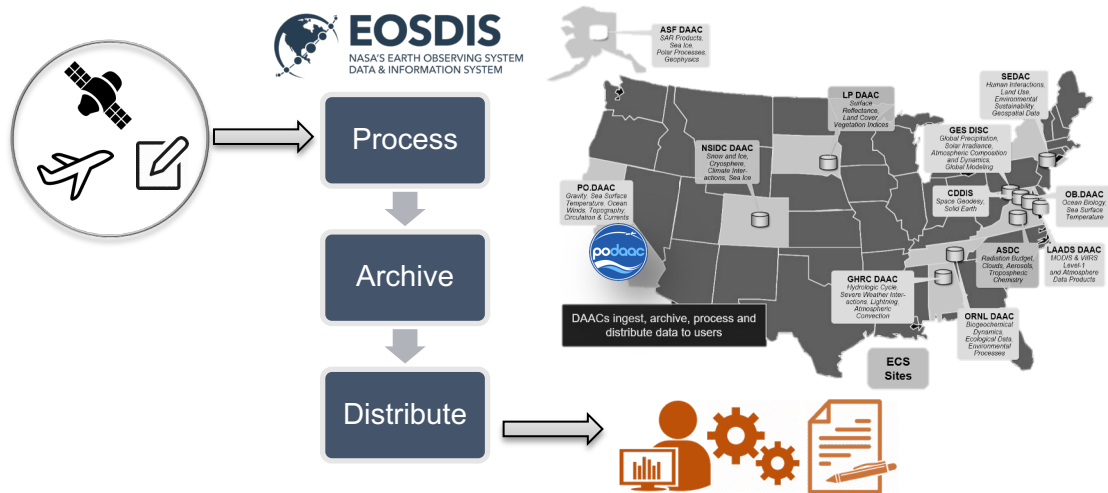
December 12, 2019
American Geophysical Union
Fall Meeting
San Francisco, California

Contact:
Catalina.Oaida@jpl.nasa.gov



Physical Oceanography Distributed Active Archive Center (PO.DAAC)

<https://podaac.jpl.nasa.gov/>



Tools

Discover

Visualize

Access



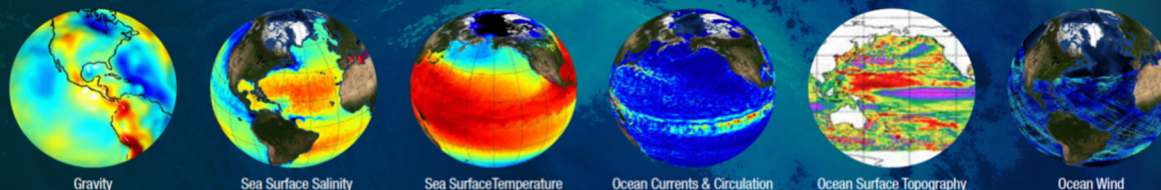
Missions Supported

PO.DAAC supports a large fleet of Earth Observing missions, putting key data directly into the hands of Earth science researchers so that they can address key questions about the oceans, environment, and global climate change.

podaac.jpl.nasa.gov/missions

Data Parameters

Learn about core measurements, related missions and instruments
podaac.jpl.nasa.gov/CoreMeasurements



600+ datasets



250+ TB of data

15+ million data files



50,000 distinct users served

50+ datasets published each year



20+ earth observing missions supported

~26 PB active data volume



PO.DAAC is the primary NASA archive for SWOT (Surface Water and Ocean Topography)

Surface Water and Ocean Topography (SWOT)

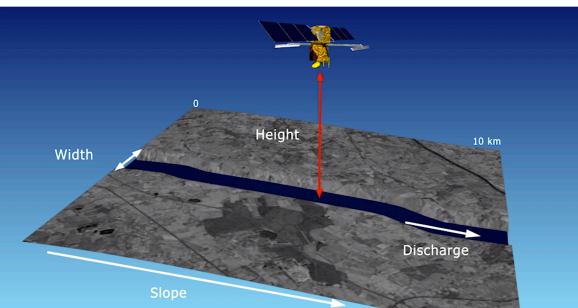
<https://podaac.jpl.nasa.gov/SWOT>

SWOT launch

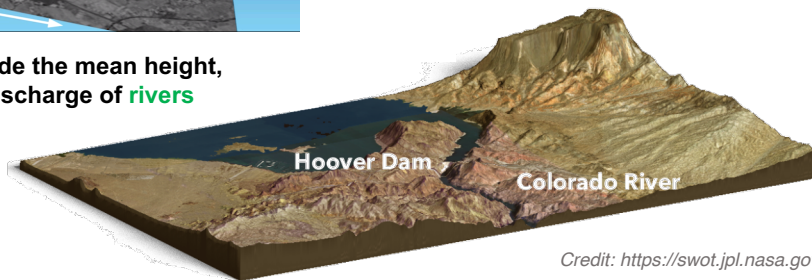
September 2021

PO.DAAC is the primary
NASA archive for SWOT

SWOT will measure global **ocean** surface topography and **land surface water** elevation with great accuracy using interferometry.

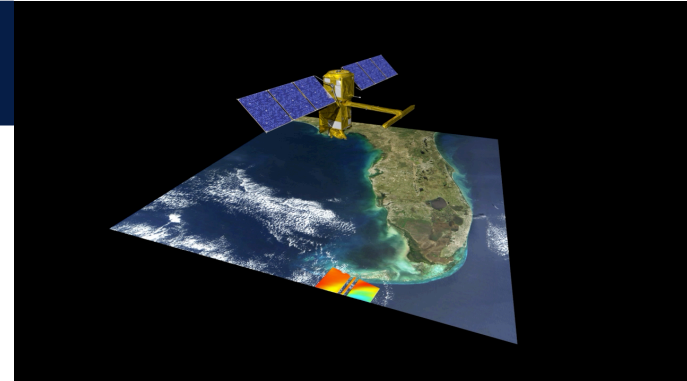


SWOT is set to provide the mean height, width, slope and discharge of **rivers**



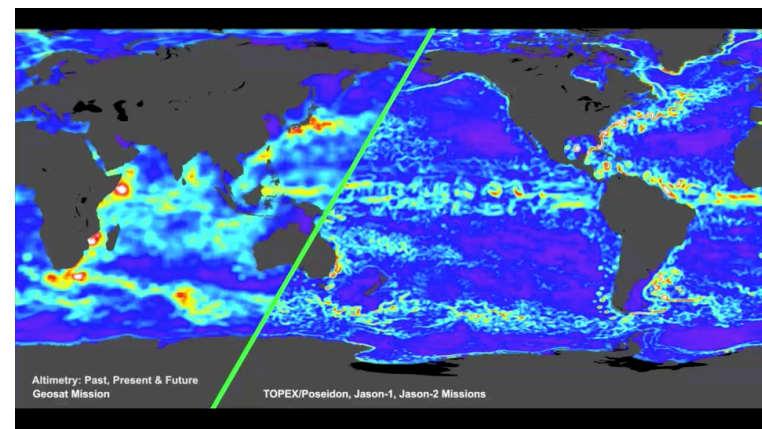
Credit: <https://swot.jpl.nasa.gov>

SWOT is set to survey the height, area and changes in volume over time of **lakes and reservoirs**



Credit: NASA/JPL-Caltech

Characterize the **ocean** mesoscale and sub-mesoscale circulation (15 – 200 km or about 9 – 124 mi, overall) at spatial resolutions of 15 km (~9 mi) and greater.



Credit: PO.DAAC



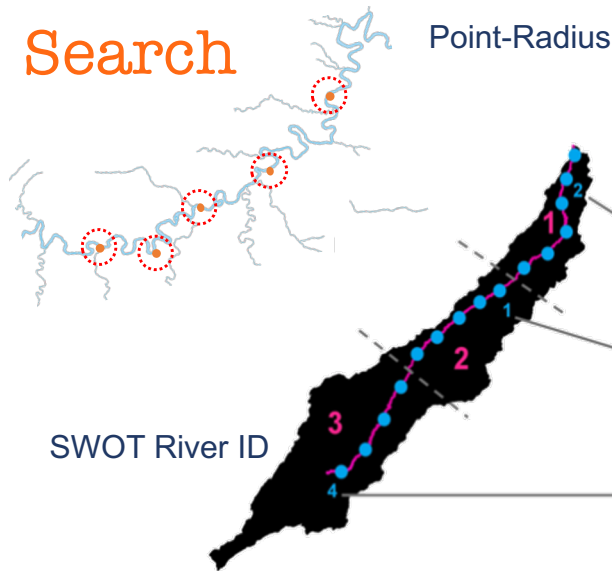
Applications:

- Flood and Drought Monitoring
- Water Resources Management
- Inland and Coastal Commerce
- Coastal Zone Management
- Climate and Weather

Search

Point-Radius

Polygon



CBBBBBRRRNNT (all will be integers)

- C – Continent
- B – Pfafstetter Basin Code
- R – Reach Number
- N – Node Number
- T – Type

7429820010021 (node id)

7429820011 (reach id)

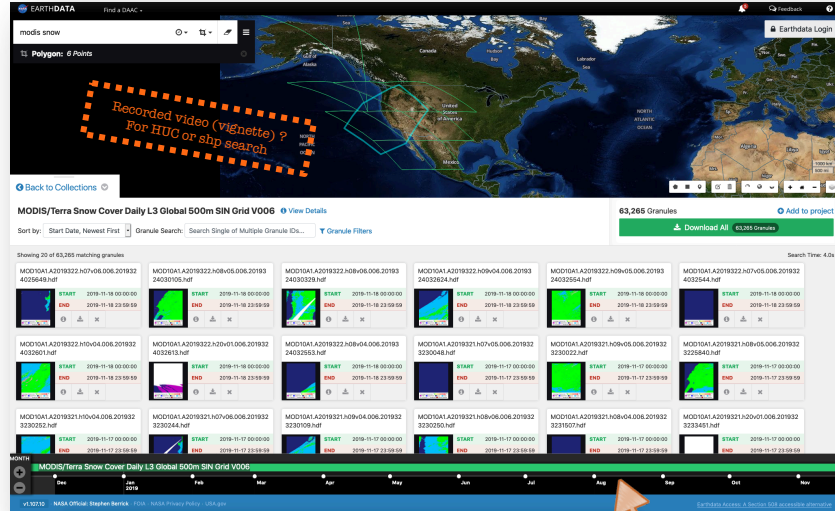
7429820020011 (node id)

7429820021 (reach id)

7429820030041 (node id)

7429820031 (reach id)

SWOT River ID



Time

Transformations



Re-project



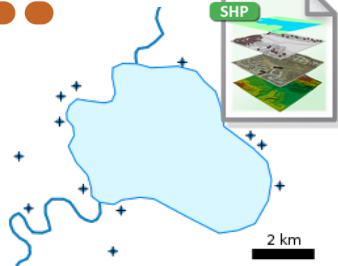
Re-grid



Reformat



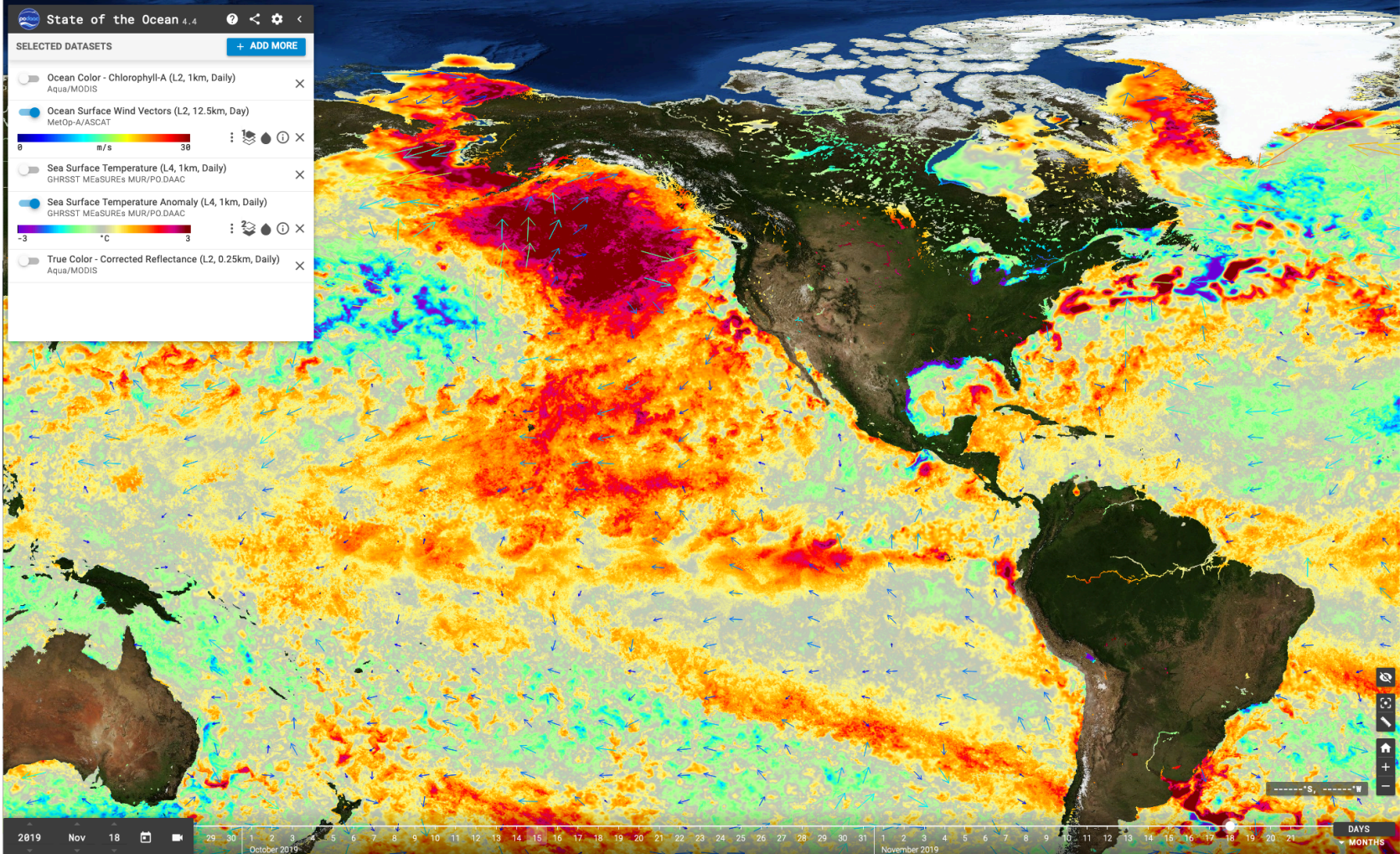
Subset



Custom Shapefile

HUC
Hydrologic Unit Code





Visualize

Data Access

Earthdata Search

Find a DAAC

smap soil moisture

Polygon
Rectangle
Point
File (KML, KMZ, ESRI, ...)
Grid Coordinates

114 Matching Collections

Sort by: Relevance

Only include collections with granules

Include non-EOSDIS collections

Tip: Add + collections to your project to compare and download their data.

Swagger Editor

```
250: schema:
251:   type: integer
252:   default: 0
253:
254: Status:
255:   name: status
256:   description: job status
257:   in: query
258:   schema:
259:     $ref: '#/components/schemas/JobStatus'
260:
261: responses:
262:   400Error:
263:     description: Bad request
264:     content:
265:       application/json:
266:         schema:
267:           type: object
268:           properties:
269:             message:
270:               type: string
271:               enum:
272:                 - email provided is not a valid email address
273:                 - invalid spatial constraint
274:                 - invalid temporal constraint
275:                 - job id provided is not a valid id
276:
277:   404Error:
278:     description: Job not found
279:     content:
280:       application/json:
281:         schema:
282:           type: object
283:           properties:
284:             message:
285:               type: string
```

Servers

https://podaac-test.jpl.nasa.gov/ps3/v0

Authorize

default

POST /jobs Submit a job

GET /jobs Get list of jobs

GET /jobs/{id} Get a job

Schemas

Email string(email)
example: john.smith@example.org
Email address of requester

Jobid string(uuid)
example: f81d4fae-7dae-11d0-a765-00a0c910b60f
Job id assigned by service

Showing 20 of 13,584 matching granules

Granule ID	START	END
SMAP_L4_SM_aup_20191123T000000_Vv4030_001.h5	2019-11-22 22:30:00	2019-11-23 01:30:00
SMAP_L4_SM_aup_20191122T10000_Vv4030_001.h5	2019-11-22 19:30:00	2019-11-22 22:30:00
SMAP_L4_SM_aup_20191122T180000_Vv4030_001.h5	2019-11-22 16:30:00	2019-11-22 19:30:00
SMAP_L4_SM_aup_20191122T000000_Vv4030_001.h5	2019-11-22 00:00:00	2019-11-22 03:00:00
SMAP_L4_SM_aup_20191122T060000_Vv4030_001.h5	2019-11-22 03:00:00	2019-11-22 06:00:00
SMAP_L4_SM_aup_20191122T030000_Vv4030_001.h5	2019-11-22 00:00:00	2019-11-22 03:00:00

MONTH

SMAP L4 Global 3-hourly 9 km EASE-Grid Surface and Root Zone Soil M...

Dec Jan 2019 Feb Mar Apr May Jun Jul Aug Sep Oct Nov

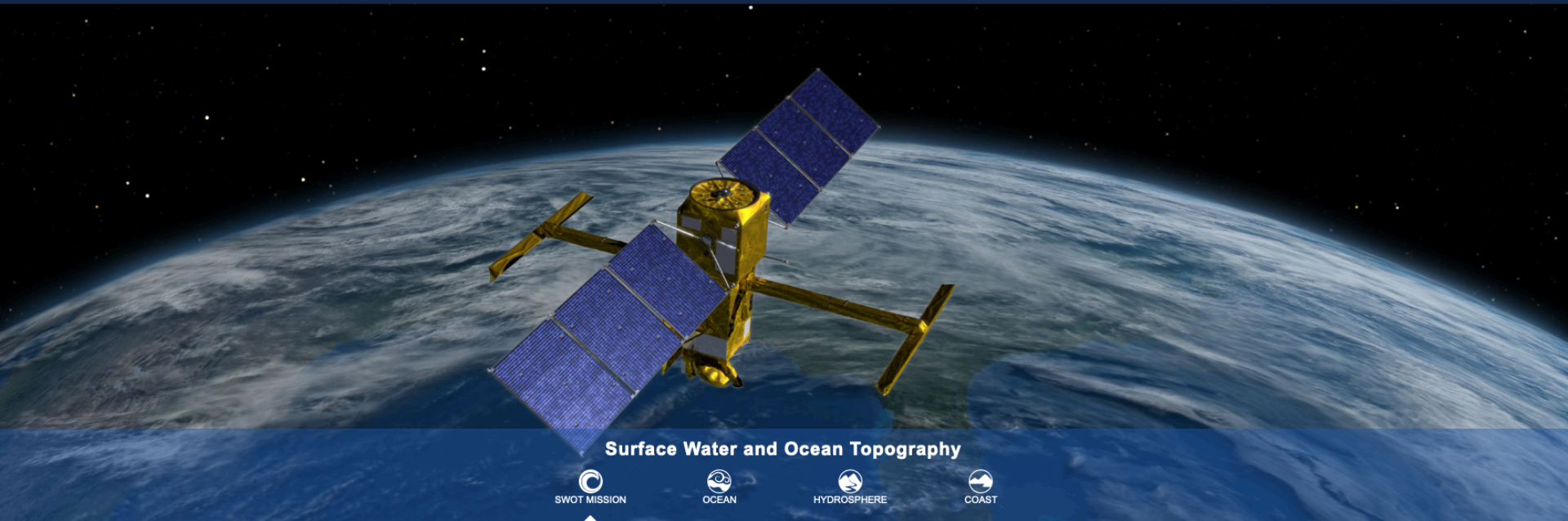
GUI

API

<https://podaac.jpl.nasa.gov/>
@podaac

Thank You!

<https://podaac.jpl.nasa.gov/SWOT>

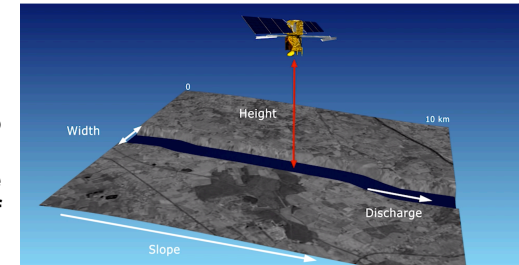
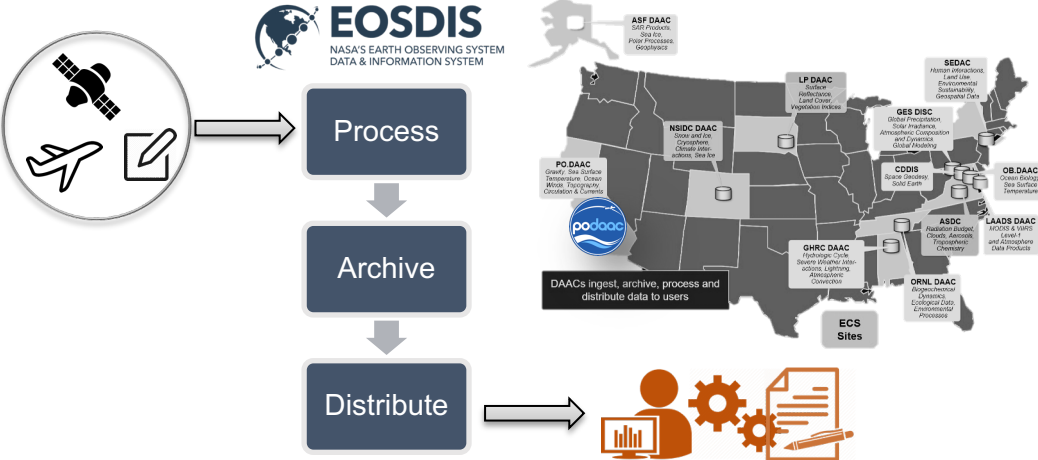


Contact: Catalina.Oaida@jpl.nasa.gov

extras

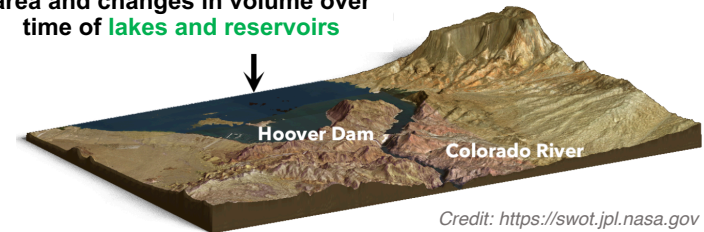
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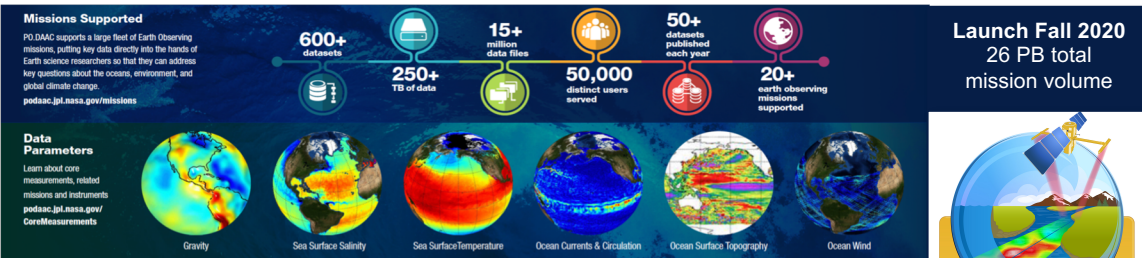


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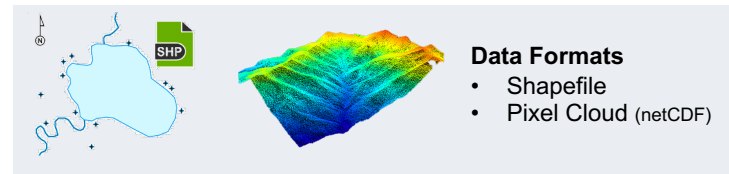
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Slide 6: and how these new/migrated functionalities are folded in draw in column that shows tools/service and data in one place - to be developed

